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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/564,651

07/13/2006

Michael Vossing

KMG-001

1665

52554 7590 04/09/2010

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EXAMINER

LEE, REBECCA Y

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

04/09/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                       |  |
|------------------------------|--------------------------------------|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/564,651 | <b>Applicant(s)</b><br>VOSSING ET AL. |  |
|                              | <b>Examiner</b><br>REBECCA LEE       | <b>Art Unit</b><br>1793               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 46-78 is/are pending in the application.
- 4a) Of the above claim(s) 46-62, 67, 68 and 73-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 63-66 and 69-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/01/10 has been entered.

### ***Status of claims***

Claims 1-45 are cancelled. Claims 46-62, 67-68 and 73-78 are withdrawn. Claims 63-66 and 69-72 are pending where claims 63 and 69 are amended in view of amendment filed 03/01/10.

### ***Status of Previous Rejections***

The rejections of claims 63-66 and 69-72 under 35 U.S.C. 103(a) have been maintained.

### ***Election/Restrictions***

Applicant traverses the restriction requirement on the ground that all pending claims contain the technical limitation of "an iron (II) sulphate monohydrate-containing precipitate, which is produced by concentrating an iron (II) sulphate monohydrate-

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containing used sulphuric acid and separating the sulphuric acid from the obtained precipitate". This is not found persuasive because such feature is known in the prior art, e.g., US5362321 (Column 9, lines 1-3 and Table 3). As the recited substance does not make a contribution over the prior art, unity is lacking and restriction is proper.

Examiner would like to remind the applicant that the restriction requirement has been made FINAL in the previous action, and the finality is maintained.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 63-66 and 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen (US 5362321) in view of Cody et al. (US 4505886).

Regarding claim 63, Larsen teaches a method of reducing the soluble chromate content in cement comprising mixing the cement with iron(II) sulfate monohydrate (Column 9, lines 1-3, example 3 and table 3).

Larsen does not teach the ferrous sulfate monohydrate is produced by concentrating an iron(II) sulfate monohydrate containing used sulfuric acid

Larsen further teach the iron(II) sulfate monohydrate is prepared by drying iron(II) sulfate heptahydrate (Column 9, lines 1-3), but not by concentrating an iron(II) sulfate

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monohydrate containing used sulfuric acid, as claimed. Larsen also does not teach the claimed particle size or the titanium or manganese content.

Cody et al. teach a process to obtain iron sulfate heptahydrate by crystallizing (precipitating) out iron sulfate heptahydrate from sulfuric acid (Column 4, lines 3-26). Before the crystallization, the ferrous sulfate is 2-25% by weight, titanium 5-25% by weight in the solution; after crystallization, the ferrous sulfate is 0-10% by weight, titanium 5-30% by weight in the solution. One of ordinary skill in the art would have expected the titanium content in the iron sulfate precipitate would be within the claimed range of 5-15% by weight base on iron.

It would have been obvious to one of ordinary skill in the art to use the ferrous sulfate heptahydrate made by Cody et al. in the drying step of Larsen in order to obtain sulfate monohydrate with expected success since Larsen do not require any specific made ferrous sulfate heptahydrate.

In addition, even the combined references do not expressly teach the claimed particle size, since the process of precipitating ferrous sulfate monohydrate as taught by Larsen in view of Cody et al. is significantly similar as claimed, one of ordinary skill in the art would have expected the precipitate of Larsen in view of Cody et al. to have the same or similar size as claimed.

Regarding claim 64, Larsen teaches the ferrous sulfate monohydrate added to the cement is 0.25 or 0.5% (table 3).

Regarding claim 65, Larsen teaches the reducing agent can be milled before adding to the powdered cement (Column 3, lines 32-37).

Regarding to claim 66, since Larsen in view of Cody et al. teach a process of reducing soluble chromate in cement that is significantly similar to the claimed process, one of ordinary skill in the art would have expected the same increasing reducing effect of the iron(II) sulfate-containing reducing agent increases at least temporarily as the storage time increases to be shown by the process of Larsen in view of Cody et al. as claimed.

Regarding claim 69, Larsen further teaches ferrous sulfate heptahydrate (green salt) can be used as a chromate reducing agent (Column 9, lines 4-5 and table 3).

It is well held that combining two components each of which is taught by the prior art to be useful for the same purpose is prima facie obviousness MPEP 2144.06. In the instant case, both ferrous sulfate monohydrate and ferrous sulfate heptahydrate can be used as a chromate reducing agent in cement, as taught by Larsen (Column 9, lines 1-5 and table 3). Thus, it would have been obvious to one of ordinary skill in the art to use a combination of ferrous sulfate heptahydrate (green salt) and ferrous sulfate monohydrate in the process of Larsen in view of Cody et al. with expected success.

Regarding claim 70, Larsen teaches the ferrous sulfate monohydrate added to the cement is 0.25 or 0.5% (table 3).

Regarding claim 71, Larsen teaches the reducing agent can be milled before adding to the powdered cement (Column 3, lines 32-37).

Regarding to claim 72, since Larsen in view of Cody et al. teach a process of reducing soluble chromate in cement that is significantly similar to the claimed process, one of ordinary skill in the art would have expected the same increasing reducing effect

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of the iron(II) sulfate-containing reducing agent increases at least temporarily as the storage time increases to be shown by the process of Larsen in view of Cody et al. as claimed.

### ***Response to Arguments***

Applicant's arguments filed 03/01/10 have been fully considered but they are not persuasive.

Applicant tries to demonstrate the ferrous sulfate monohydrate produced by the claimed method is materially different from the reference. The examiner would like to remind the applicant that any objective evidence such as unexpected result must be factually supported by an appropriate affidavit or declaration to be of probative value. See *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) and MPEP 716.01(c). Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP § 716.02(d) - § 716.02(e). Since the proof of factual evidence is lacking in applicant's assertion of unexpected results, the examiner does not find the argument persuasive.

### ***Conclusion***

No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to REBECCA LEE whose telephone number is (571)270-5856. The examiner can normally be reached on Monday-Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JERRY LORENZO can be reached on (571)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./  
Examiner, Art Unit 1793

/J.A. LORENZO/  
Supervisory Patent Examiner, Art  
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